

## Chapter 14.12

### STANDARDS FOR ROADWAY DEVELOPMENT

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#### **14.12.010 Definitions.**

For the purposes of this chapter, the following definitions shall apply:

“AASHTO guidelines” means the engineering and development standards published by AASHTO in the current edition titled “A Policy on Geometric Design of Highways and Streets.”

“ADA Accessibility Guidelines (ADAAG)” means the minimum standards set forth in the Federal Register, Volume 56, Number 144, July 26, 1991, regarding the accessibility to places of public accommodation and commercial facilities by persons with disabilities.

“Arterial” means generally signalized streets that serve primarily through traffic and provide access to abutting properties as a sec-

ondary function.

“Clear view” means that portion of the corners at intersections where obstructions are limited to two feet in height in order to preserve a safe sight distance for motorists entering intersections.

“Collector street” means a street providing land access and traffic circulation service within residential, commercial and industrial areas. They enable moderate quantities of traffic to move efficiently between local streets and the major street network.

“Corner lot” means a lot abutting on two intersecting or intercepting streets, where the interior angle of intersection or interception does not exceed one hundred thirty-five degrees.

“Curb ramps” means a short ramp cutting through a curb or built up to a curb.

“Decision sight distance” means the distance required for a driver to detect an unexpected or otherwise difficult-to-perceive information source or hazard in a roadway environment that may be visually cluttered, recognize the hazard or its threat potential, select appropriate speed and path, and initiate and complete the required safety maneuver safely and efficiently.

“Developed parcel” means those land uses other than agricultural.

“Driveway” means an access constructed within and adjoining a roadway, connecting the roadway with adjacent property and intended to be used in such a way that the access into the adjacent property will be complete and will not cause the blocking of any sidewalk border area or roadway.

“Local streets” means streets primarily providing access to immediately adjacent properties. Through movement may be possible, but is not encouraged.

“Multifamily driveway” means a driveway providing access to more than four dwelling units.

“Private roadway” means a roadway in private ownership which is controlled and maintained by the owners and not the city.

“Public roadway” means a roadway which has been dedicated, deeded or otherwise conveyed to public use.

“Roadway” means the entire width between the boundaries of any highway, street or road which is used for vehicular traffic. The terms “roadway,” “highway,” “street” and “road” are used interchangeably in this chapter.

“Ramp” means a walking surface which has a running slope greater than 1:20.

“Sight distance” means the same as stopping sight distance.

“Stopping sight distance” means the minimum sight distance required that will allow motorists traveling at or near the design speed to stop before reaching a stationary object in its path.

“Sidewalk” means a facility provided for pedestrian movement, usually segregated from vehicular traffic by a curb or provided on a separate right-of-way.

#### **14.12.020 Roadway to comply with standards.**

All public and private roadway development located within and subject to the jurisdiction of the city shall meet the requirements of this chapter. Where specific elements of design and construction are not addressed in this chapter, roadway design and construction shall comply with the engineering guidelines for design set forth in the AASHTO publication, “A Policy on Geometric Design of Highways and Streets,” 1990, and any successor editions. The department or its designee shall utilize the AASHTO manual in setting safe design requirements.

#### **14.12.025 Curb ramps, ramps and sidewalks to comply with standards.**

All public and private curb ramp, ramp and sidewalk development located within and subject to the jurisdiction of the city shall meet the requirements of this chapter. Where specific elements of design and construction are not addressed in this chapter, curb ramp,

ramp and sidewalk construction shall comply with the minimum guidelines for design set forth in the ADAAG, July 26, 1991, and any successor editions. The department shall utilize the ADAAG in setting appropriate design requirements.

#### **14.12.030 Policies.**

The department may adopt policies for use by developers and others in the overall layout and design of streets and adjacent developments. The department will keep and make available to the public copies of the policy.

#### **14.12.040 Clear view of intersecting streets.**

A. Corner sight distance for local streets as defined in the AASHTO guidelines shall be a minimum of 300 feet. All other locations shall be provided with sight distance in accordance with AASHTO guidelines.

B. No constructed or planted obstruction to view, in excess of two feet in height above the level of the adjacent street pavement (measured at the edge of the pavement) shall be allowed within the clear view of intersecting streets. Exception to this are signs that conform to the applicable zoning code; a reasonable number of trees pruned to ten feet; and pumps at gasoline service stations. In the event the provisions of this subsection conflict with zoning codes, the most restrictive shall apply.

C. Landscaping material or other obstructions which infringes the clear view of intersecting streets creates a safety hazard, after 20 days’ notice to property owner by certified mail has been given, may be trimmed or removed by city employees or by any other person or entity designated by the city.

D. The city shall be entitled to reimbursement of the costs incurred by it in trimming or removing landscaping or obstructions under this section, and may seek such reimbursement by sending an itemized invoice by certified mail to the property owner at its last known address. If the property owner fails to pay such costs to the city within 20 days after

the date of mailing such invoice, the city may cause suit to be brought in an appropriate court of law seeking such payment, interest thereto at the statutory rate, and the city's attorney's fees and costs of suit.

#### **14.12.050 Landscaping overhanging street pavement.**

Trees and landscaping which overhang the street pavement shall be trimmed to a minimum height of thirteen and one-half feet above the street pavement. Trees and landscaping which violate the requirements of this section may be trimmed or removed by city employees or by any other person or entity designated by the city after 20 days' notice by certified mail to the property owner has been given. The city shall be entitled to reimbursement of the costs incurred by it in trimming trees and landscaping under this section, and may seek such reimbursement by sending an itemized invoice by certified mail to the property owner at its last known address. If the property owner fails to pay such costs to the city within 20 days after the date of mailing such invoice, the city may cause suit to be brought in an appropriate court of law seeking such payment, interest thereon at the statutory rate, and the city's attorney's fees and costs of suit.

#### **14.12.060 Sidewalks.**

A. Sidewalks shall be located as far as practical from travel lanes. As the minimum standard, concrete sidewalks shall be four feet in width with a five foot utility strip between the roadway edge of sidewalk and back of curb.

B. A five-foot sidewalk will be allowed integral with the back of curb where exceptional topographic conditions exist or where specifically approved by the city. Where integral sidewalk is permitted, the right-of-way may be reduced accordingly.

C. When properties are adjacent, but do not access or front on public right-of-way, a stamped brick pavement in the utility strip or

other suitable approved finishing material shall be required to reduce maintenance in these areas unless an exception is granted by the city.

D. In developments which have a minimum lot area of one acre, aesthetic alternatives may be approved in lieu of standard concrete, except areas along collectors and arterials. The department or its designee shall review and approve all design and geometric standards for such requests.

E. Sidewalks shall remain unobstructed from vegetation and other obstructions to a minimum height of seven feet. Landscaping or other obstructions which violate the requirements of this section may be trimmed or removed by city employees or by any other person or entity designated by the city after 20 days' notice by certified mail to the property owner has been given. The city shall be entitled to reimbursement of the costs incurred by it in trimming or removing landscaping or obstructions under this section, and may seek such reimbursement by sending an itemized invoice by certified mail to the property owner at its last known address. If the property owner fails to pay such costs to the city within 20 days after the date of mailing such invoice, the city may cause suit to be brought in an appropriate court of law seeking such payment, interest thereon at the statutory rate, and the city's attorney's fees and costs of suit.

#### **14.12.065 Curb ramps.**

A. Curb ramps shall be provided wherever an accessible route crosses a curb.

B. The least possible slope shall be used for any curb ramp. Slope shall be measured by: Slope equals Y:X, where X is a level plane.

C. The maximum slope of a curb ramp in new construction shall be 1:12. Curb ramps to be constructed on existing sites or in existing buildings or facilities may have slopes and rises less than 1:12 as follows:

1. A slope between 1:10 and 1:12 is allowed for a maximum rise of six inches;

2. A slope between 1:8 and 1:10 is allowed for a maximum rise of three inches; and

3. A slope steeper than 1:8 is not allowed.

D. The minimum width of a curb ramp shall be 36 inches, exclusive of flared sides.

E. Surfaces or curb ramps shall be stable, firm and slip-resistant.

F. If a curb ramp is located where pedestrians must walk across the ramp, or where it is not protected by handrails or guardrails, it shall have flared sides, the maximum slope of the flare shall be 1:10. Curb ramps with returned curbs may be used where pedestrians would not normally walk across the ramp.

G. Built-up curb ramps shall be located so that they do not project into vehicular traffic lanes.

H. Curb ramps shall be located or protected to prevent their obstruction by parked vehicles.

I. Curb ramps at marked crossings shall be wholly contained within the markings, excluding any flared sides.

J. If diagonal (or corner type) curb ramps have returned curbs or other well-defined edges, such edges shall be parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have 48 inches minimum clear space. If diagonal curb ramps are provided at marked crossings, the 48-inch clear space shall be within the markings. If diagonal curb ramps have flared sides, they shall also have at least a 24-inch long segment of straight curb located on each side of the curb ramp and within the marked crossing.

K. Any raised islands in crossings shall be cut through level with the street or have curb ramps at both sides and a level area at least 40 inches long between the curb ramps in the part of the island intersected by the crossings.

#### **14.12.070 Horizontal clearance to obstructions.**

On all streets a minimum clearance of 24 inches shall be provided between the curb face or shoulder edge and obstructions such as util-

ity poles, fire hydrants, etc., except standard mailboxes approved by the U.S. Postal Service.

#### **14.12.080 Cul-de-sacs.**

A. Cul-de-sacs and turnarounds shall have a minimum right-of-way radius of 50 feet in residential areas and 60 feet in commercial and industrial areas. A circular left hand offset is desirable.

B. Hammerhead, "L," "Y" and "T" turnarounds shall only be allowed when approved by the city's planning commission upon written recommendation and design review of the department.

C. A temporary turnaround for stub streets in excess of 150 feet long shall be provided where the extension of a street is planned and anticipated.

D. The length of a cul-de-sac shall vary inversely with density to accommodate a maximum of 25 lots and shall not be longer than 1,000 feet.

#### **14.12.090 Roadway design.**

A. All vertical grades shall be a maximum of ten percent.

B. A minimum vertical grade of four-tenths of one percent and a minimum crown slope of two percent shall be provided for adequate drainage of runoff.

C. All approach legs of intersections shall provide vertical crest grades not to exceed two percent for a distance of at least 50 feet from right-of-way line of intersecting streets.

D. The length of crest and sag vertical curbs shall be designed in accordance with AASHTO guidelines.

E. Vertical and horizontal curves shall be designed to provide a minimum stopping sight distance in accordance with AASHTO guidelines using the design speeds listed below. Decision sight distances, however, may be required as outlined in AASHTO's guidelines where more complex driver information error is likely to occur.

F. All roadways shall be designed in ac-

cordance with the following design speeds using AASHTO's guidelines, principles, and practices:

1. Local: 25 mph;
2. Collector: 40 mph;
3. Arterial: 50 mph.

G. Superelevation rates above 0.06 ft./ft. shall be prohibited to minimize slipping across a roadway when stopped or attempting to slowly gain momentum from a stopped position. Superelevation will not be allowed on local residential streets.

H. Where a centerline deflection angle of more than ten degrees occurs, a circular curve shall be introduced. There shall be a tangent of at least 50 feet on local streets and 100 feet for collectors and arterials between reverse curves.

#### 14.12.100 Minimum right-of-way and pavement design.

A. The minimum pavement width and pavement design standards shall be provided as follows:

	Right-of-way Width	Pavement Width	Minimum Design Section
Local	42'	25'	8" base 3" asph.
Local	50'	25'	8" base 3" asph.
Collector	60'	35'	8" base 3" asph.
Collector	66'	41'	8" base 3" asph.
Collector	80'	55'	10" base 4" asph.
Arterial	106'	55' - 81'	12" base 6" asph.

B. All roadway sections shall be designed in accordance with specific geotechnical specifications acceptable to the city. Such geotechnical specifications shall be paid for by the applicant. The city shall required analysis and additional design requirements when unusual site or traffic conditions exist.

#### 14.12.110 Driveway approaches.

A. Requirements for commercial, industrial, manufacturing, and multiple family uses requiring motor vehicle access shall meet the requirements as hereinafter provided:

1. Access shall not be by more than one

driveway approach for each 100 feet of frontage on any street. The city's planning commission, or staff where specifically delegated, may modify this requirement when considering a particular site plan in those cases where the commission or staff determines that the safety and convenience of the general public would be better served by more or less driveway approaches.

2. Wherever possible, adjacent sites should share driveway approaches.

3. Additional driveway approaches may be warranted by the following table 3-A for on-center spacing of driveway approaches.

Table 3-A  
Recommended Driveway Approach Spacing

Median Barrier	Principal Arterial	Arterial	Collector
No	250 ft.	200 ft.	175 ft.
Yes	185 ft.	115 ft.	85 ft.

4. No two of said driveway approaches shall be closer to each other than 50 feet.

5. No driveway approach shall be closer than 100 feet to the point of intersection of the two property lines at any corner. If there is not 100 feet of frontage then the driveway approach will be placed five feet from the property line furthest from the intersection of the property lines, if the nearest existing driveway approach is 50 feet or further away. In no instance shall a driveway approach be closer than 60 feet from the projected intersection right-of-way lines with a minimum of five-foot flared section. Flared driveway approaches are required for distinction from intersection corners.

6. The minimum width of a driveway approach shall be 12 feet and the maximum shall be 30 feet.

7. The community development director may approve a driveway approach up to a maximum of 50 feet wide.

B. Single-family dwellings shall meet the following requirements as hereinafter provided:

1. Single-family dwellings shall be per-

mitted only one access unless a circular driveway approach is utilized.

2. There shall be a minimum of 35 feet between the entrances of circular driveway approaches and the two closest edges of the driveway approach.

3. Corner lots will be allowed to have one driveway approach per street frontage.

4. There shall be a minimum ten feet distance between all approved driveway approaches except on cul-de-sacs.

5. The minimum street driveway approach width at the property line shall be ten feet and the maximum shall be 25 feet.

6. A minimum five-foot radius or flared section shall be used.

7. No radius or flare portion of a driveway approach shall intersect the adjacent projected property line except where shared approaches are utilized.

8. On corner lots, driveway approaches shall be set back a minimum of 25 feet from the point of intersection of the right-of-way lines.

C. All driveway approach grades shall not exceed 4% within 20 feet of the roadway boundary.

D. Approaches shall be a minimum of five feet from any line except on cul-de-sacs.

#### **14.12.120 Intersection design.**

A. The minimum radius of curb return on local streets in residential areas shall be 25 feet. A larger radius shall be used in industrial areas or higher functional classification streets as approved by the department or its designee in accordance with AASHTO guidelines.

B. Streets shall intersect at an angle of ninety degrees where possible, but in no case shall the angle of intersection be less than eighty degrees.

C. Offset intersections shall be avoided whenever possible and offsets shall be provided with minimum distances as follows:

1. Local streets: 150 feet;
2. Collectors: 500 feet;
3. Arterials: 800 feet.

D. Left turns shall be prohibited within 200 feet of major intersections either by signs or concrete medians.

#### **14.12.130 Private roadways.**

A. The width of all private roadways shall consist of a minimum of 25 feet of unobstructed travel surface. Roadways shall be 25 feet wide where they form cul-de-sacs greater than 500 feet in length. Short sections may be reduced to preserve trees or other features as approved by the fire department.

B. All surfaces shall consist of an approved design capable of carrying 24-ton vehicles.

C. Except as modified by subsections A and B of this section, all private roadways shall comply with the requirements of this chapter.

D. Each and every owner of any interest in a private roadway shall be jointly and severally responsible for the maintenance and repairs to the roadway. The city shall have no responsibility or liability for the maintenance of or repair to any private roadway. Each private roadway shall be maintained in a manner which allows easy access and passage of emergency vehicles throughout the entire length of the roadway.

E. Any building lot that is located outside a planned unit development, which fronts on a private roadway with at least 25 feet of paved surface, shall have a minimum lot area of one-half acre. The minimum distance from the center of such roadway to the front building line on such a lot shall be 50 feet.

F. Gated access to private roadways is subject to prior city approval, and shall be considered by the city's planning commission on a case-by-case basis. Proposed gated access shall be subject to any minimum standards for such gateways adopted by the city, and to design review by the city's architectural review commission.

#### **14.12.140 Street direction and grade.**

No street shall vary from the direction and

grade of other city streets unless an exception in the direction and grade is obtained from the city council.

**14.12.150 Exceptions.**

In cases where unusual topographical, aesthetic, or other exceptional conditions or circumstances exist, variations or exceptions to the requirements of this chapter may be approved by the city council after receiving recommendations from the city's planning commission and the department, provided that the variation or exceptions are not detrimental to the public safety or welfare.